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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/665,040	09/18/2003	Warren Lin	26571-502	4471

7590 06/20/2005

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EXAMINER

BURCH, MELODY M

ART UNIT	PAPER NUMBER
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3683

DATE MAILED: 06/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/665,040

Applicant(s)

LIN, WARREN

Examiner

Melody M. Burch

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 June 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 and 6-25 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 June 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to because in figure 1B "104a" is not pointing to a bottom surface as described in the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

2. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Marked-up Drawings" and must be presented in

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the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

3. The disclosure is objected to because of the following informalities: the references to the element numbers removed from the figures such as element "300" should correspondingly be removed from the specification.

Appropriate correction is required.

Claim Objections

4. Claims 8 and 14-21 are objected to because of the following informalities: the phrase "the central portion" in line 2 of claim 8 should be changed to --the central mounting portion-- to maintain consistency and the phrase "positioned mounted on" in line 9 of claim 14 should be reworded. The remaining claims are objected to due to their dependency from claim 14. Appropriate correction is required.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 3, 4, and 18 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Re: claims 3 and 18. The phrase "the bridge includes a plurality of openings" is

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indefinite in light of the recitation in claim 1 that the bridge is solid. It is unclear to the Examiner whether the bridge is intended to be solid or not. Clarification is required. A similar issue exists regarding claim 18 with respect to claim 14. Claim 4 is indefinite due to its dependency from claim 3.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3 and 7-25 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4913266 to Russell et al.

FIRST INTERPRETATION

Re: claims 1, 22. Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or mounting bore in top element 9 for mounting the brake rotor on a hub 1, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a bridge or solid portion of top element 9 provided between the central mounting portion and the inner

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diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs or remaining elements 9 positioned proximate to the bridge wherein the central mounting portion, the braking surfaces, the bridge, and the ribs are formed in a single piece as shown in figure 2.

Re: claim 2. Russell et al. show in figure 2 the limitation wherein the bridge 9 is substantially solid and wherein at least a portion of at least one rib (remaining elements 9) protrudes above a surface (particularly a bottom surface) of the bridge.

Re: claim 5. Russell et al. show in figure 2 the limitation wherein at least one of the plurality of ribs are integral to a side of a flow channel shown between elements 7 of a vented brake rotor.

Re: claims 7, 9. Russell et al. show in figure 2 the brake rotor comprising one or more pairs of openings or areas between elements 7, each pair of openings allowing communication between the first annular braking surface and the second annular braking surface or in an alternate interpretation the one or more pairs of openings may be the holes in the ribs 9. In the alternate interpretation the vent would be the space between adjacent elements 7.

Re: claims 11, 19, 23. Russell et al. show a cover or rightmost element shown above fastener 17 for covering all or a portion of the bridge.

Re: claim 14. Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or mounting bore in top element 9 for mounting the brake rotor on a hub 1, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface

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includes an inner diameter and an outer diameter, a bridge or remaining portion of top element 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, a plurality of ribs or remaining elements 9 positioned proximate to the bridge (in an alternate interpretation elements 7 can represent ribs proximate the bridge), and a plurality of flow channels shown between elements 7.

Re: claim 15. Russell et al. show in figure 2 the limitation wherein each flow channel includes at least one wall 7.

Re: claims 16 and 17. Russell et al. show in figure 2 in the alternate interpretation the limitation wherein the at least one wall comprises one of the plurality of ribs.

ALTERNATE INTERPRETATION

Re: claims 1, 22. In an alternate interpretation of the Russell et al. reference, Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or element 1 for mounting the brake rotor on a hub shown immediately to the left of the lead arrow of number 15, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a bridge or all elements 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 7 positioned proximate to the bridge.

Russell et al. include the limitation wherein the central mounting portion, the braking surfaces, the bridge, and the ribs are formed in a single piece under assembly via the elements 15.

Re: claims 3 and 18. Russell et al. show in figure 2 the limitation wherein the rotor comprises a plurality of openings positioned in the bridge or the apertures shown in each of elements 9.

Re: claim 5. Russell et al. show in figure 2 the limitation wherein at least one of the plurality of ribs are integral to a side of a flow channel shown between elements 7 of a vented brake rotor.

Re: claims 7, 9. Russell et al. show in figure 2 the brake rotor comprising one or more pairs of openings or areas between elements 7, each pair of openings allowing communication between the first annular braking surface and the second annular braking surface or in an alternate interpretation the one or more pairs of openings may be the holes in the elements 9. In the alternate interpretation the vent would be the space between adjacent elements 7.

Re: claims 8 and 10. In the alternate interpretation, Russell et al. show the limitation wherein the central mounting portion comprises a hat having a plurality of openings shown on elements 13 which may be used to receive fasteners from hub shown to the left of number 15.

Re: claims 11, 19, 23. Russell et al. show the limitation wherein the rotor further comprises a cover or element shown to the right of the lead arrow of number 15 for covering all or a portion of the bridge.

Re: claims 12, 20, 24. Russell et al. show in figure 2 the limitation wherein the cover comprises a circular piece of material having a central opening corresponding in size to the central mounting portion of the rotor, wherein upon mounting of the cover onto the rotor, the central opening receives the central mounting portion of the rotor.

Re: claims 13, 21, 25. Russell et al. show in figure 2 the limitation wherein the cover includes a plurality of fastening openings shown at 27 for receiving fasteners for fastening the cover to the rotor.

Re: claim 14. Russell et al. show in figure 2 a brake rotor shown in the area of element 5 comprising a central mounting portion or element 1 for mounting the brake rotor on a hub, a first annular braking surface to the left of the lead line of number 3 and a second annular braking surface 5, wherein each braking surface includes an inner diameter and an outer diameter, a solid bridge or all of elements 9 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces (the solid portion of the bridge is shown between the apertures in elements 9 and the inner diameter of the braking surfaces), a plurality of ribs shown surrounding elements 27 positioned proximate to the bridge, and a plurality of flow channels shown between elements 7.

Russell et al. include the limitation wherein the central mounting portion, the braking surfaces, the bridge, and the ribs are formed in a single piece under assembly via the elements 15.

Re: claim 15. Russell et al. show in figure 2 the limitation wherein each flow channel includes at least one wall 7.

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Re: claims 16 and 17. Russell et al. show in figure 2 in the alternate interpretation the limitation wherein the at least one wall comprises one of the plurality of ribs.

9. Claims 1, 2, 5-9, 14, 15, 17, 22 are rejected under 35 U.S.C. 102(e2) as being anticipated by US Patent 6536564 to Garfinkel et al.

Re: claims 1, 2. Garfinkel et al. show in figure 6 a brake rotor 110 comprising a central mounting portion 124 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 122 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 144 positioned proximate to the bridge.

Re: claim 5. Garfinkel et al. show in figure 6 the limitation wherein at least one of the plurality of ribs 144 is integral to a side of a flow channel 130a of a brake rotor.

Re: claim 6. Garfinkel et al. show in figure 6 the limitation wherein either or both of the annular braking surfaces includes one or more slots 117.

Re: claim 7. Garfinkel et al. show in figure 6 the limitation of the rotor further comprising one or more pairs of openings (the opening within the bridge 122, the opening in the area of element number 126 and the pairs of openings shown at 138 and 140, for example, each pair of opening allowing communication between the first annular braking surface and the second annular braking surface.

Re: claim 8. Garfinkel et al. show in figure 6 the limitation of the rotor further comprising a hat portion shown in the area of element 126 disposed in the central portion and adapted for mounting the rotor to a vehicle.

Re: claim 9. Garfinkel et al. show in figure 6 the limitation wherein a first opening or hole within element 122 allows the first annular braking surface to fluid communicate with a vent 130a.

Re: claims 14, 15, 17, 22. Garfinkel et al. show in figure 6 a brake rotor comprising a central mounting portion 124 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 122 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, a plurality of ribs 144 positioned proximate to the bridge, and a plurality of flow channels 130a.

10. Claims 1, 3, 4, 8, 22 are rejected under 35 U.S.C. 102(b) as being anticipated by DE-3216108 (DE'108).

Re: claims 1, 22. DE'108 shows in figure 1 a brake rotor 3 comprising a central mounting portion 2 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 27,29 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 26 positioned proximate to the bridge.

DE'108 includes the limitation wherein the central mounting portion, the braking surfaces, the bridge, and the ribs are formed in a single piece under assembly via the element 29 as shown in figure 1.

Re: claim 3. DE'108 shows in figure 1 the limitation wherein the bridge includes a plurality of openings or spaces enclosed by elements 27 and element 29.

Re: claim 8. DE'108 shows in figure 1 the limitation of the rotor further comprising a hat portion or inner cylindrical wall of element 2 disposed in the central portion and adapted for mounting the rotor to a vehicle.

Re: claims 1 and 4. In an alternate interpretation, DE'108 shows in figure 1 a brake rotor 3 comprising a central mounting portion 2 for mounting the brake rotor on a hub, a first annular braking surface and a second annular braking surface, wherein each braking surface includes an inner diameter and an outer diameter, a bridge 26,29 provided between the central mounting portion and the inner diameter of at least one of the first and the annular braking surfaces, and a plurality of ribs 27 positioned proximate to the bridge.

DE'108 includes the limitation wherein the central mounting portion, the braking surfaces, the bridge, and the ribs are formed in a single piece under assembly via the element 29 as shown in figure 1.

Response to Arguments

11. Applicant's arguments filed 6/14/05 have been fully considered but they are not persuasive.

With regards to the Russell et al. reference, Examiner notes that Russell et al. show in the first interpretation the bridge or the solid portion of top element 9 extending between the annular wall of the mounting portion or the annular wall of the aperture shown to the left of the top element number 9 and the inner diameter of the braking surface of element 3 as shown. Examiner notes that Russell et al. show in the alternate interpretation the bridge or all elements 9 extending between the annular wall of the mounting portion 1 and the inner diameter of the braking surface of element 3 as shown.

With regards to the Garfinkel reference, Examiner notes that Garfinkel shows the bridge 122 extending between the annular wall of the mounting portion shown in the area of the lead line of number 124 and the inner diameter of the bottom braking surface as shown.

With regards to the DE'108 reference, the German reference shows in both interpretations the bridge extending between the annular wall of the central mounting portion 2 and the inner diameter of the braking surface of element 3 as shown.

With regards to the ribs of Garfinkel, Examiner notes that a rib is defined by Webster's Collegiate 10th Edition as an elongated ridge (an elevated body part). As broadly recited, Examiner maintains that elements 144 are ribs that are radially extending as clearly shown.

With regards to DE'108 and the rib limitation, in the first limitation the ribs are clearly radially extending (see elements 27). In the second interpretation, the ribs 26

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extend partially in the radial direction as they are slanted with respect to element 2 as shown clearly in figure 2.

Accordingly, the rejections have been maintained.

Conclusion

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melody M. Burch whose telephone number is 703-306-4618. The examiner can normally be reached on Monday-Friday (7:30 AM-4:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Charles A. Marmor can be reached on 703-308-0830. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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June 16, 2005

Melody M. Burch
6/16/05